

Name _____ Period _____

Skill 24.01 Problem 1

Which of the following compounds contain covalent bonds?

KMnO₄, NaCN, MnI, CO₂

Skill 24.01 Problem 2

Which of the following compounds contain ionic bonds?

MgO, CaH₂, CH₃COOH, NaClO₄, HCl

Skill 24.01 Problem 3

Which of the following pairs of elements or ions is very likely to form an ionic bond? Explain.

(a) MnO₄, K (b) Na, F (c) H, CN (d) Na, K (e) C, O

Which of the following pairs of elements is very likely to form a covalent bond? Explain.

(a) Mg, F (b) Na, F (c) Ca, Br (d) C, Cl (e) C, Al

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Skill 24.02 Problem 1

Classify each of the following compounds as ionic or covalent

- (a) AB is soluble in water and conducts electricity in its molten state
- (b) XY is insoluble in water and is a gas at room temperature
- (c) CD is soluble in water and is a liquid at room temperature

Skill 24.02 Problem 2

Element **Z** is found to have these characteristics:

- solid
- conducting
- forms the compound **ZCl** with chlorine

Z is most likely from which group on the periodic table

Element **Z** is found to have these characteristics:

- solid
- semiconducting
- forms the compound **Z_aO_b** with oxygen

Z is most likely from which group on the periodic table